is cooled via a single (i.e., the same) coolant loop as the primary battery **652**. In this example, a portion **686** of the coolant line **634** that is connected to dry-break fluid connector **670** connects to a portion **688** of coolant line **634** via a tee-connection **690**, and a bypass valve **692** is disposed between the tee-connection **690** and a portion **694** of cooling line **634** that connects to the heat exchanger **642'**. Other aspects of the system are substantially similar to those of the example of FIG. **6**A and are not described again here.

[0053] In operation of the system according to the example of FIG. **6**C, when the auxiliary battery module **602** is disconnected from the electric vehicle, as detected by the controller **680**, the controller **680** opens or maintains as open the bypass value **692**. No isolation values are necessary to close off the auxiliary battery module **602** from the cooling loop, because disconnection of the first fluid connector (including **664** and **666**) and second fluid connector (including **668** and **670**) isolates the coolant in that portion of the cooling loop. In such a case, the thermal management system operates as previously described to monitor and control the temperature of the main battery **652** by controlling and adjusting any or all of the EAC compressor **628**, pumps **636** and **658**, fan **626**, active grill shutter **614**, expansion value **630**, and coolant heater **638** to bring/maintain the temperature of the main battery **652** back to a within one or more permissible ranges. On the other hand, when the auxiliary battery module **602** is connected to the electric vehicle, as detected by the controller **680**, the controller **680** closes or maintains as closed the bypass value **692**, thereby forcing coolant through the auxiliary battery module **602** as well as through the main battery **652**. In that case, the thermal management system operates such as previously described to monitor and control the temperature of the main battery **652** and the auxiliary battery module **602** by controlling or adjusting any or all of the EAC compressor **628**, pumps **636** and **658**, fan **626**, active grill shutter **614**, expansion value **630**, and coolant heater **638** to bring/maintain the temperature of the respective battery **602** or **652** to values within one or more permissible ranges.

[0054] FIG. **6**D illustrates another exemplary functional block diagram of a thermal management system for an electric vehicle having features previously described for electric vehicles **100** and **500** and including a primary battery **652**, e.g., such primary battery **552**, and utilizing an auxiliary battery module **602** such as auxiliary battery modules **102**, **202** and **502** as previously described herein, wherein both the auxiliary battery module **602** and primary battery **652** provide power to the vehicle powertrain for propelling the electric vehicle. The example of FIG. **6**D differs from the example of FIG. **6**C only in that the pump **658** and degas/bleed coolant reservoir **656** are located at the auxiliary battery module **602** instead of being located at the electric vehicle. Accordingly, the previous discussion of the common components and operation is not reproduced here.

[0055] Another exemplary auxiliary battery module will now be described with reference to FIGS. **7**A-**7**C and FIGS. **1**A-**3**. As shown in FIG. **7**A, an exemplary auxiliary battery module **702** includes a battery housing **703** and a battery diposed within the battery housing **703**, wherein the battery comprises multiple individual battery cells (not shown). The auxiliary battery module **702** also includes a first electrical connector **720** mounted to the battery housing **703**. The first electrical connector **720** mates to a second electrical connector **122** of the electric vehicle **100** of FIG. **1**A such that the auxiliary battery module **702** can provide electrical power to the electric motor(s) that propel the electric vehicle **102**, such as shown in FIGS. **1**A, **5**A and **5**B, for example. The electrical connector **720** of FIG. **7**A and electrical connector **122** of FIGS. **1**A and **1**B include high-voltage connections **720***a*, **720***b* and **122***a*, **122***b*, respectively, that permit the auxiliary battery module **702** to be electrically connected in parallel with the vehicle's primary battery and may include one or more low-voltage connections **720***c* and **122***c*, respectively, to provide electrical connection to sensors and electrical circuitry for monitoring and control associated with operation of the auxiliary battery module **702** when attached to the electric vehicle **100**.

[0056] The auxiliary battery module **702** can be configured to be positioned in the cargo area **112** of the electric vehicle **100** such as previously described in connection with FIGS. **1**A-**1**C and **3**A-**3**C. In this regard, the auxiliary battery module **702** includes a battery housing **703** as noted above, protruding support portions **721**, tapered support surfaces **721***a*, protruding alignment members **730**, fastening holes **734** for bolts, and grab areas **742**. In addition, the auxiliary battery module **702** includes air vents disposed in walls of the battery housing **703**, e.g., inlet air vents **752** and **754** and outlet air vents **756** and **758**, whose use will be further discussed below.

[0057] FIG. **7**B illustrates an exemplary functional block diagram of a thermal management system for an electric vehicle having features previously described for electric vehicles **100** and **500** and including a primary battery **762**, e.g., such as primary battery **552**, and utilizing an auxiliary battery module **702** mentioned above, wherein both the auxiliary battery module **702** and primary battery **762** provide power to the vehicle powertrain for propelling the electric vehicle. As shown in example of FIG. **7**B, the electric vehicle comprises a powertrain system **710** (including one or more electric motors such as previously described), a powertrain coolant line **712** that passes through a radiator **714**, and that is connected to a degas/bleed coolant reservoir **716**, and that is further connected to a pump **718** for circulating coolant. The electric vehicle also includes an active grill shutter AGS **720** positioned adjacent to the radiator **714** and controlled by a motor or other suitable actuator. The vehicle also includes a refrigeration system including a condenser **722***a*, a receiver dryer (RD) **723** (e.g., comprising a desiccant to remove moisture), refrigerant lines **724***a*, a fan **726**, an electric A/C compressor (EAC) **728***a*, and expansion valve **730***a*, which may be a thermal expansion valve with a solenoid or an electronic expansion valve. Pressure sensors **727***a* and temperature sensors **729***a* may be located at one or both refrigerant lines **724***a* at both sides of the EAC **728***a* to monitor/measure the pressure and temperature, respectively, of the refrigerant, e.g., for use in controlling the EAC **728***a*. The refrigerant system is also connected to a cabin HVAC module **732** via an expansion valve **731** and refrigerant lines **724***a* for providing cabin air conditioning.

[0058] In the example of FIG. **7**B, the electric vehicle also includes a primary battery coolant line **734** (e.g., metal tubing such as copper alloy, aluminum alloy, steel alloy, etc.) that is connected to a coolant pump **736**, a coolant heater **738**, a degas/bleed coolant reservoir **740**, a heat exchanger **742***a* (e.g., a refrigerant-to-coolant heat exchanger), and the primary battery **762**. These components as connected by the primary battery coolant line **734***a* form a primary battery